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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,756	10/06/2003	Paul Adams	BIC-018	2833

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EXAMINER	
HODGE, ROBERT W	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
12/11/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Notice of Allowability	**Application No.** 10/679,756	**Applicant(s)** ADAMS ET AL.	
	Examiner ROBERT HODGE	**Art Unit** 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *7/17/09*.
2. ☒ The allowed claim(s) is/are *1,3,5-17,75,76,78-83,85-93,95-103 and 105-115*.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Padam Shah on 10/20/09.

The application has been amended as follows: **In the claims please cancel claims 77, 84, 94, 104 and 116 and amend the following claims as follows:**

1 . (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment and a third reaction chamber;

wherein the fuel is transported by a pump from the first fuel compartment to the third reaction chamber, where the fuel reacts to form reactants comprising hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported through a conduit to the second reactant compartment, wherein the pump meters a rate of flow of fuel from the first fuel compartment to the third reaction chamber; and

wherein the second reactant compartment is at least partially inside a housing member and comprises a gas permeable, liquid impermeable membrane disposed on a wall of the second reactant compartment, and the hydrogen gas passes through the gas permeable, liquid impermeable membrane and out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell and the liquid reactant remains in the second reactant compartment.

76. (Currently Amended) The fuel supply of claim 1, wherein the second reactant compartment further comprises ~~a pressure differential device~~ a poppet valve, a porous member, a fill or a foam ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

82. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment and a third reaction chamber;

wherein the fuel is transported from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment,

wherein the second reactant compartment is at least partially inside a housing member and comprises a gas permeable, liquid impermeable membrane disposed on a wall of the second reactant compartment and fluidly connecting the second reactant compartment to the housing member, and the hydrogen gas passes through the gas permeable, liquid impermeable membrane and out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell and wherein a pressure differential is required for hydrogen gas to pass through the gas permeable, liquid impermeable membrane so that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

83. (Currently Amended) The fuel supply of claim 82, wherein the second reactant compartment further comprises ~~a pressure differential device~~ a poppet valve, a porous member, a fill or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough.

92. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment and a third reaction chamber, wherein the second reactant compartment is at least partially inside a housing member and;

wherein the fuel is transported from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment,

wherein the hydrogen gas passes out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell and wherein the second reactant compartment comprises ~~a pressure differential device~~ a poppet valve, a porous member, a fill or a foam fluidly connecting the second reactant compartment to the housing member, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

100. (Withdrawn - Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment and a third reaction chamber, wherein the second reactant compartment is at least partially inside a housing member;

wherein the fuel is transported through a channel from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment, wherein said channel comprises a wicking material,

wherein the hydrogen gas passes out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell through a shut-off valve, wherein when the shut-off valve is closed the back pressure stops the flow of fuel into the third reaction chamber to stop the reaction of fuel.

103. (Withdrawn - Currently Amended) The fuel supply of claim 100, wherein the second reactant compartment further comprises ~~a pressure differential device~~ a poppet valve, a porous member, a fill or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure a pressure in

the second reactant compartment is higher than a pressure in the first fuel compartment.

112. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment and a third reaction chamber, wherein the second reactant compartment is at least partially inside a housing member;

wherein the fuel is transported from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment and wherein the hydrogen gas passes out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell, and

wherein a single valve is positioned between the first fuel compartment and the third reaction chamber and wherein the valve is one-directional from the first fuel compartment to the third reaction chamber.

115. (Currently Amended) The fuel supply of claim 112, wherein the second reactant compartment further comprises ~~a pressure differential device~~ a poppet valve, a porous member, a fill or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

Election/Restrictions

Pursuant to the procedures set forth in 37 CFR 1.141, claims 79, 100-103 and 105-111 directed to a species, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 11/8/07 is hereby withdrawn**. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Allowable Subject Matter

Claims 1, 3, 5-17, 75, 76, 78-83, 85-93, 95-103, and 105-115 allowed.

The following is an examiner’s statement of reasons for allowance: The prior art of record does not teach of fairly suggest a fuel supply wherein the fuel leaving the second reactant compartment is contained in an internal spacing located between the second reactant compartment and the housing member. The closest prior art reference is to Amendola, however Amendola does not teach the above feature and there is no motivation for a skilled artisan in the prior art to modify Amendola to make the instantly claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Examiner Initiated Interview Summary

In the Examiner initiated interview dated 10/20/09, the Examiner informed applicants’ representative that the amendment to the claims filed 7/17/09 contained new matter. However the Examiner understood the direction applicants wanted to go with said amendment and the Examiner reviewed the instant specification to find subject matter that would convey the same idea but would in fact be supported. The Examiner proposed amending all of the independent claims to recite that the hydrogen gas “is contained in an internal spacing located between the second reactant compartment and the housing member”. The Examiner also proposed removing the recitation of “pressure differential device” from the claims, since it was already shown to applicants that it contained new matter and that instead applicants could recite the actual structural elements supported by the specification; i.e. poppet valve, porous member, filler or foam. The Examiner further stated that as long as the withdrawn claims were amended in the same manor that they would be rejoined. Applicants’ representative agreed to the changes and also agreed to provide a marked-up copy of the claims to the Examiner via fax to include with this Examiner's Amendment, which have been copied and placed in the Examiner's Amendments above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Primary Examiner, Art Unit 1795